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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* HAILAN GUO and CHING-JEN CHANG

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Appeal 2009-1673  
Application 10/719,167  
Technology Center 1700

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Decided:<sup>1</sup> March 05, 2009

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Before EDWARD C. KIMLIN, BRADLEY R. GARRIS, and  
CATHERINE Q. TIMM, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1, 3, 5, and 10.

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

We have jurisdiction under 35 U.S.C. § 6(b). Claim 1 is illustrative:

1. A triggered response barrier composition comprising: one or more multi-stage emulsion polymers that comprise (a) 70-99 weight percent of an alkali soluble/swellable emulsion polymer as a first stage; and (b) 1 to 30 weight percent of a more cross-linked alkali soluble/swellable emulsion polymer or a non-alkali soluble/swellable emulsion polymer as a second stage; wherein the multi-stage emulsion polymer surrounds, encapsulates or forms a matrix with one or more active ingredients and the multi-stage emulsion polymer disperses, disintegrates, dissolves, destabilizes, swells, deforms, softens, flows or combinations thereof, releasing the one or more active ingredients to an aqueous system as a result of a change in ionic strength of the aqueous system.

The Examiner relies upon the following references as evidence of obviousness (Ans. 2-3):

Sonnabend	4,384,096	May 17, 1983
Eisenhart	5,451,641	Sep. 19, 1995
Gassenmeier	2001/0031714	Oct. 18, 2001

Appellants' claimed invention is directed to a composition comprising one or more multi-stage emulsion polymers. The polymer comprises a first and second stage. The first stage of the polymer comprises 70-99 weight percent of an alkali soluble/swellable emulsion polymer, and the second stage comprises 1 to 30 weight percent of either a more cross-linked alkali soluble/swellable emulsion polymer, or a non-alkali soluble/swellable emulsion polymer. The first stage may be prepared by polymerizing monomers such as acrylic acid, methacrylic acid and styrene. The second stage of the polymer may be prepared by polymerizing monomers such as methylmethacrylate and styrene.

Appealed claims 1, 3, 5, and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sonnabend or Gassenmeier in view of

Eisenhart. The appealed claims also stand provisionally rejected on the ground of non-statutory obviousness-type double patenting over claims 1-8 and 1-10 of co-pending U.S. Application Nos. 10/619,601 and 10/348,375, respectively, in view of Eisenhart.

Appellants have not presented separate arguments for any particular claim on appeal. Accordingly, all the appealed claims stand or fall together with claim 1.

We have thoroughly reviewed each of Appellants' arguments for patentability. However, we agree with the Examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the Examiner's rejections.

We consider first the Examiner's rejection under § 103. There is apparently no dispute that both Sonnabend and Gassenmeier disclose polymer blends of polymers that make up the presently claimed first and second stages. As recognized by the Examiner, the references do not exemplify multi-stage polymerization. However, Eisenhart evidences that it was known in the art to prepare multi-stage polymers comprising first and second stages which correspond to the presently claimed first and second stages. In particular, Eisenhart discloses the preparation of multi-stage polymer particles comprising from about 1 percent to about 99 percent of an alkali-soluble first polymer stage that may be a polymer of acrylic acid or methacrylic acid, and a second stage comprising a base-insoluble polymer that may be prepared from monomers such as methylmethacrylate and styrene. Hence, like Appellants, Eisenhart discloses multi-stage emulsion polymers that preferably comprise "at least one polymer stage which is base-

insoluble and at least one polymer stage which is base-soluble” (col. 4, ll. 3-5), wherein the base-soluble stage may be prepared by polymerizing one or more monomers such as acrylic acid and methacrylic acid, and the base-insoluble stage may be prepared by polymerizing one or more monomers such as methylmethacrylate and styrene.

Consequently, contrary to Appellants’ argument that there is no reason to expect that multi-stage polymers are desirable within the technology of Sonnabend or Gassenmeier, Eisenhart presents substantial evidence that the monomers disclosed by Sonnabend and Gassenmeier and claimed by Appellants can be effectively used to prepare a multi-stage polymer that finds utility as a thickener. Indeed, it would appear that multi-stage polymers within the broad scope of the appealed claims are fairly taught by Eisenhart alone. Although Appellants submit that “[t]he claims recite a polymer whose shell (second stage) is more cross-linked than its core or is not alkali soluble” (Br. 10, second para.), the claims on appeal fail to recite any core/shell structure.

Appellants cite Example 2 of the Specification as evidence of unexpected results regarding asserted superior properties of the claimed compositions compared to single-stage polymers. However, Appellants have not rebutted the Examiner’s valid criticism that the limited showing in the Specification is not commensurate in scope with the degree of protection sought by the appealed claims, does not compare the same monomeric constituents, and does not establish that the superior results would be considered truly unexpected by one of ordinary skill in the art. We direct attention to the Examiner’s analysis at page 7 of the Answer.

We will also sustain the Examiner's obviousness-type double patenting rejections of the appealed claims for essentially the same reasons set forth above with respect to the § 103 rejection. Contrary to the argument advanced by Appellants, we agree with the Examiner that Eisenhart would have provided ample motivation to one of ordinary skill in the art to prepare multi-stage emulsion polymers from the blends claimed in the co-pending applications.

In conclusion, based on the foregoing, the Examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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